

user's manual  
instrukcja obsługi



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# CAMA-II

NVC-SD218DN  
NVC-SD222DN  
NVC-SD226DN  
NVC-SD236DN

**noVus**<sup>®</sup>



user's manual



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# CAMA-II

NVC-SD218DN

NVC-SD222DN

NVC-SD226DN

NVC-SD236DN

**noVus**<sup>®</sup>


## COMMENTS AND WARNINGS

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### EMC (2004/108/EC) and LVD (2006/95/EC ) Directives

#### CE Marking

 Our products are manufactured to comply with requirements of following directives and national regulations implementing the directives:

- Electromagnetic compatibility EMC 2004/108/EC.
- Low voltage LVD 2006/95/EC with further amendment. The Directive applies to electrical equipment designed for use with a voltage rating of between 50VAC and 1000VAC as well as 75VDC and 1500VDC.

### WEEE Directive 2002/96/EC

#### Information for users who want to get rid of electrical and electronic appliances



This product is marked according to the European Directive on Waste Electrical and Electronic Equipment (2002/96/EC) and further amendments. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The symbol on the product, or the documents accompanying the product, indicates that this appliance may not be treated as household waste. It shall be handed over to the applicable collection point for the waste electrical and electronic equipment for recycling purpose. For more information about recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.

### RoHS Directive 2002/95/EC

#### Information concerning limitation of the use of dangerous substances in the electrical and electronic appliances.



Out of concern for human health protection and friendly environment, we assure that our products falling under RoHS Directive regulations, regarding the restriction of the use of hazardous substances in electrical and electronic equipment, have been designed and manufactured in compliance with the above mentioned regulation. Simultaneously, we claim that our products have been tested and do not contain hazardous substances whose exceeding limits could have negative impact on human health or natural environment.

#### Information

The device, as a part of professional CCTV system used for surveillance and control, is not designed for self installation in households by individuals without technical knowledge.

The manufacturer is not responsible for defects and damages resulted from improper or inconsistent with user's manual installation of the device in the system.

## IMPORTANT SAFEGUARDS AND WARNINGS

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### ATTENTION!

PRIOR TO UNDERTAKING ANY ACTION THAT IS NOT PROVISIONED FOR THE GIVEN PRODUCT IN ITS USER'S MANUAL AND OTHER DOCUMENTS DELIVERED WITH THE PRODUCT, OR THAT ARISES FROM THE NORMAL APPLICATION OF THE PRODUCT, ITS MANUFACTURER MUST BE CONTACTED OR THE RESPONSIBILITY OF THE MANUFACTURER FOR THE RESULTS OF SUCH AN ACTION SHALL BE EXCLUDED.



### IMPORTANT SAFEGUARDS AND WARNINGS

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1. Prior to undertaking any action with the device, please consult following manual, and read all the safety and operating instructions before operating the device.
2. Please keep the following manual for the time of device's lifespan in case when referring to the contents of the manual would become necessary.
3. Follow all the safety precautions described in this manual. Improper installation and camera operation may have impact on operator safety as well as camera operational reliability and lifespan.
4. Camera mounting and operations should be conducted according to this manual, both for users and service personnel.
5. Please unplug the unit from the power before starting maintenance procedures.
6. Please use only attachments / accessories specified by the manufacturer.
7. To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture as this unit is designed for indoor use only. Do not install the camera near any steam sources or near water (any wet area like pools, bath tubs etc.).
8. Mounting the device in places where proper ventilation cannot be provided (e. g. closed lockers etc.) is not recommended since it may lead to heat build-up and damaging the device itself in consequence.
9. Mounting the camera on unstable surface or using not recommended mounts is forbidden. Improperly mounted camera may be the cause of fatal accident or be seriously damaged itself. Camera must be mounted by qualified personnel with proper authorization, in accordance to user's manual.
10. Device should be supplied only from power sources which parameters are in accordance to one's pointed out by the producer in camera technical datasheet. Therefore it is forbidden to supply the camera from power sources with their parameters unknown, unstable or not meeting the producer's requirements.
11. Signal cables (conducting TV or/and telemetric signal) should be placed in a way excluding the possibility of damaging them by accident. Special attention must be paid to cables going out of the camera and connecting power supply;

## IMPORTANT SAFEGUARDAS AND WARNINGS

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12. To avoid equipment damage, whole TV circuit should be equipped with properly made (in accordance with Polish Regulations) discharge-, overload- and lightning protection devices. Usage of separating transformers is advised.
13. Electric installation supplying the device should be designed to meet the specifications given by the producer in such a way, that overloading it is impossible.
14. Camera should be protected from water and objects that may get inside it.
15. User cannot repair or upgrade equipment himself. All maintenance actions and repairs should be done only by the qualified service personnel.
16. Unplug the camera from the power source immediately and contact the proper maintenance department when the following occurs:
  - ◆ Damages to the power cord or to the plug itself;
  - ◆ Liquids getting inside the device or exposure to strong mechanical shock;
  - ◆ Device behaves in a way not described in the manual and all adjustments approved by the manufacturer, and possible to apply by user himself, seem not to have any effect;
  - ◆ Camera is damaged;
  - ◆ Atypical behaviour of the camera components may be seen (heard).
17. In case of repairs please pay attention to using only original replacement parts (with their parameters in accordance to those specified by the producer) should be paid. Non-licensed service and non-genuine replacement parts may cause fire or electrocution.
18. After maintenance activities tests should be run to ensure proper work of all the device's functional components.
19. The camera should be powered from the 24 VAC adapter. Power requirements for the proper operation of a camera should be at least equal 20 W or more for a single camera module and 80 W for camera with fans and heater attached.

## INFORMATION

Data included in the following user's manual is up to date at the time of printing. Novus Security Sp z o.o. holds exclusive rights to modify this manual. The producer reserves the rights for device specification modification and change in the design without prior notice.

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## FOREWORD

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### 1. FOREWORD

The CAMA-II series speed dome cameras feature advanced technical improvements within professional security systems. This manual refers to NVC-SD218DN, NVC-SD222DN, NVC-SD226DN and NVC-SD236DN camera models. With their superior operating possibilities, these speed dome cameras are an ideal solution for the simplest surveillance systems as well as expanded projects of integrated security systems.

NOVUS speed dome cameras incorporate a camera with built-in varifocal lens, PTZ module and a telemetry receiver with implemented RS-485 and RS-422 control interfaces . The cameras are equipped with high quality 1/4" Sony CCD imagers for enhanced resolution of displayed images.

The programmable presets, patrols, patterns and the privacy zone for masking function as well as auto day / night mode switching guarantee the cameras optimal performance.

### 2. FEATURES

- Day/Night PTZ cameras
- Mechanical IR cut filter
- IR operation capability
- Horizontal resolution: up to 540 TVL in color mode and up to 570 TVL in b&w mode.
- Min. Illumination: from 0.0003 lx/F=1.4 (DSS)
- Motor-zoom lens, AI and AF function
- Wide Dynamic Range (WDR) for enhanced image quality in diverse light conditions (NVC-SD236DN, NVC-SD222DN)
- 17 auto-scan functions
- 8 tours
- 8 patterns (max. 500 s)
- 240 preset commands
- Motion detection for the presets (only model NVC-SD236DN)
- Independent setting of automatic exposure for each preset
- 8 dynamic privacy zones
- Optical zoom: up to 36x and digital zoom: up to 12x
- 8 sensor inputs and 4 relay outputs (NO/NC) - 8 priority levels, activation of patterns, tours, presets and auto-scans
- "Auto-Flip" function allows the tilt to rotate 180° and reposition itself for continuous viewing of a moving object directly beneath the dome
- Menu enter password protection
- Full configuration (user friendly multi-lingual OSD):
  - from the NV-KBD60 & NV-KBD40 keyboards
  - from the PC through CamConfigurator - an additional dedicated application
  - from NOVUS® video capture cards
  - directly from the front panel of NOVUS® 5000 Series DVRs
- PTZ control directly from NOVUS® DVRs, NOVUS® video capture cards, NV-KBD60 & NV-KBD40 keyboards and CamConfigurator application

## FOREWORD

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- Remote control: RS-422/RS-485
- Protocols: Novus-C, Novus-C1, Pelco-P, Pelco-D
- Adjustable (three modes) pan and tilt speed of camera
- Installation: directly on the surface without an additional housing, suspended ceiling mount using NVH-SDHKIT adapter, wall/in-ceiling mount using NVH-SD40EH-C/S housing and brackets: NVB-SD40W, NVB-SD40CB, NVB-SD40PWB-230
- Acrylic bubble included
- Power supply: 24 VAC

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## SPECIFICATIONS

### 3. SPECIFICATIONS

| Model                         | NVC-SD236DN   | NVC-SD218DN  | NVC-SD222DN  | NVC-SD226DN   |
|-------------------------------|---|--|--|---|
| Pick-up Element               | 1/4" SONY ExView HAD CCD  | 1/4" SONY ExView HAD CCD   | 1/4" SONY Super HAD CCD  | 1/4" SONY ExView HAD CCD  |
| Horizontal Resolution         | 540 TVL - color mode, 580 TVL - B/W mode  | 480 TVL - color mode, 570 TVL - B/W mode   |  |   |
| Min. Illumination             | 1.1 lx/F=1.6 (1/50 s)<br>- color mode<br>0.08 lx/F=1.6 (1/3 s)<br>- color mode, DSS<br>0.014 lx/F=1.6 (1/3 s)<br>- B/W mode, DSS<br>0.001 lx/F=1.6 (1 s)<br>- B/W mode, DSS | 0.7 lx/F=1.4 (1/50 s)<br>- color mode<br>0.05 lx/F=1.4 (1/3 s)<br>- color mode, DSS<br>0.008 lx/F=1.4 (1/3 s)<br>- B/W mode, DSS<br>0.0003 lx/F=1.4 (1 s)<br>- B/W mode, DSS | 0.8 lx/F=1.6 (1/50 s)<br>- color mode<br>0.06 lx/F=1.6 (1/3 s)<br>- color mode, DSS<br>0.009 lx/F=1.6 (1/3 s)<br>- B/W mode, DSS<br>0.0008 lx/F=1.6 (1 s)<br>- B/W mode, DSS | 0.8 lx/F=1.6 (1/50 s)<br>- color mode<br>0.06 lx/F=1.6 (1/3 s)<br>- color mode, DSS<br>0.01 lx/F=1.6 (1/3 s)<br>- B/W mode, DSS<br>0.0009 lx/F=1.6 (1 s)<br>- B/W mode, DSS |
| S/N Ratio                     | More than 50 dB (AGC Off)   |  |  |   |
| Electronic Shutter            | Auto (AES): 1 s ~ 1/10 000 s/Manual   |  |  |   |
| Digital Slow Shutter (DSS)    | 1/25 s ~ 1 s  |  |  |   |
| Auto Gain Control (AGC)       | On  |  |  |   |
| Wide Dynamic Range (WDR)      | Yes   | N/A  | Yes  | N/A   |
| White Balance                 | 6 modes   |  | 5 modes  | 6 modes   |
| Back Light Compensation (BLC) | On/Off  |  |  |   |
| Synchronization               | Internal/Line-lock with phase adjustment  |  |  |   |
| Day/Night Switching           | Auto/Manual   |  |  |   |
| Lens Type                     | Motor-zoom lens, AI and AF function: f=3.4 ~ 122.4 mm (F1.6 ~ F4.5)   | Motor-zoom lens, AI and AF function: f=4.1 ~ 73.8 mm (F1.4 ~ F3.0)   | Motor-zoom lens, AI and AF function: f=3.9 ~ 85.8 mm (F1.6 ~ F3.6)   | Motor-zoom lens, AI and AF function: f=3.5 ~ 91 mm (F1.6 ~ F3.8)  |
| Angle of View (H)             | 57.8° ~ 1.7°  | 48° ~ 2.7°   | 49.5° ~ 2.4°   | 54.2° ~ 2.2°  |
| Zoom                          | Optical 36x, Digital 12x  | Optical 18x, Digital 12x   | Optical 22x, Digital 11x   | Optical 26x, Digital 12x  |
| Video Output                  | 1.0 V <sub>pp</sub> /75 Ohm (BNC)   |  |  |   |
| Alarm Input                   | 8 sensor inputs (NO/NC)   |  |  |   |
| Alarm Output                  | 4 relay outputs programmable  |  |  |   |
| Remote Control                | Standard RS-422/RS-485  |  |  |   |
| Protocol                      | Novus-C, Novus-C1, Pelco-P, Pelco-D   |  |  |   |
| Set-up                        | Multi-lingual On Screen Display (OSD): English, Polish, German, French, Spanish, Portuguese, Italian  |  |  |   |
| Preset Commands               | 240 positions   |  |  |   |
| Tours                         | 8 tours (max. 300 functions - presets, patterns, auto-scans and other tours programmable)   |  |  |   |

## SPECIFICATIONS

| Model                 | NVC-SD236DN  | NVC-SD218DN | NVC-SD222DN | NVC-SD226DN |
|-----------------------|--|-------------|-------------|-------------|
| Auto-Scans            | 17 auto-scan patterns (including spiral scan)                          |             |             |             |
| Patterns              | 8 patterns (max. 500 s)  |             |             |             |
| Privacy Zones         | 8 dynamic privacy zones (user defined switching on)                    |             |             |             |
| Tilt Range            | -10° ~ 90° (defined in the camera menu within the range of -10° ~ 10°) |             |             |             |
| Pan Range             | 360° (continuous)  |             |             |             |
| Pan/Tilt Speed        | 0.1°/s ~ 380°/s (in Novus-C protocol)                                  |             |             |             |
| Preset Speed          | Max. 380°/s  |             |             |             |
| Power Supply          | 24 VAC   |             |             |             |
| Power Consumption     | 20 W   |             |             |             |
| Operating Temperature | 0°C ~ 50°C   |             |             |             |
| Dimensions (mm)       | 126 (Ø) x 180 (H)  |             |             |             |
| Weight                | 1.2 kg   |             |             |             |

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#### 4. STANDARD ACCESSORIES

|                               |   |
|-------------------------------|---|
| NVC-SDXXX CAMA-II             | 1 |
| Special camera indoor housing | 1 |
| User's Manual (This Document) | 1 |
| Assembly Screws               | 3 |
| Plastic Anchors               | 3 |
| 10 Pin Connector              | 1 |
| 12 Pin Connector              | 2 |

If the equipment has been damaged during transport or is incomplete, the contents of package should be packed back to the original box. Contact the local NOVUS distributor for further assistance.

## CONTROLLING CAMA-II CAMERA

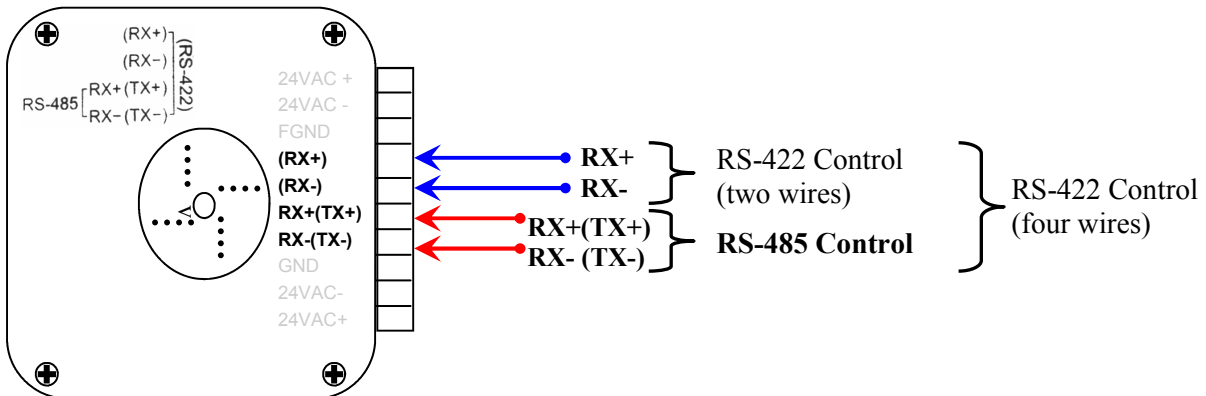
### 5. CONTROLLING CAMA-II CAMERA

For camera and controller communication RS-485/RS-422 (selected by micro switches setting) link is used. For telemetry data transmission CAT5 unshielded twisted pair cable is recommended. Only one pair of CAT5 0.35 mm<sup>2</sup> cable is used for controlling the camera and maximum distance for RS-485/RS-422 communication between camera and keyboard is 1.200 m.

CAMA-II camera can be controlled by RS-422 (two or four wires) or RS-485 standard driver. In most cases the RS-485 standard should be used and telemetry line should be connected to **RX+(TX+)** and **RX-(TX-)** pins.

For RS-485 the following standard connections junctions are used: camera **RX+(TX+)** and **RX-(TX-)** join with keyboard junctions **TX+** and **TX-**, additional cameras in the system should be connected using the same scheme **RX+(TX+)** and **RX-(TX-)**.

For RS-422 the following standard connections junctions are used: camera **RX+** and **RX-** join with keyboard junctions **TX+** and **TX-** additional cameras in the system should be connected using the same **RX+** and **RX-** scheme.



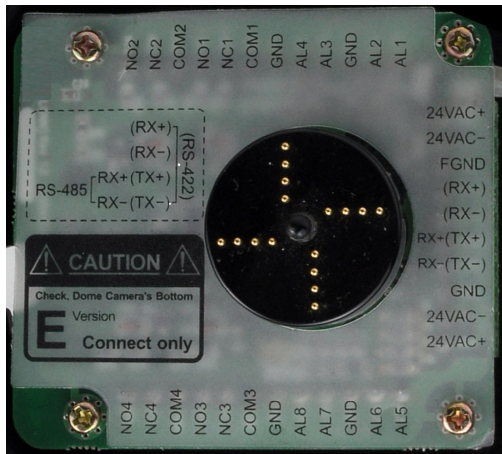
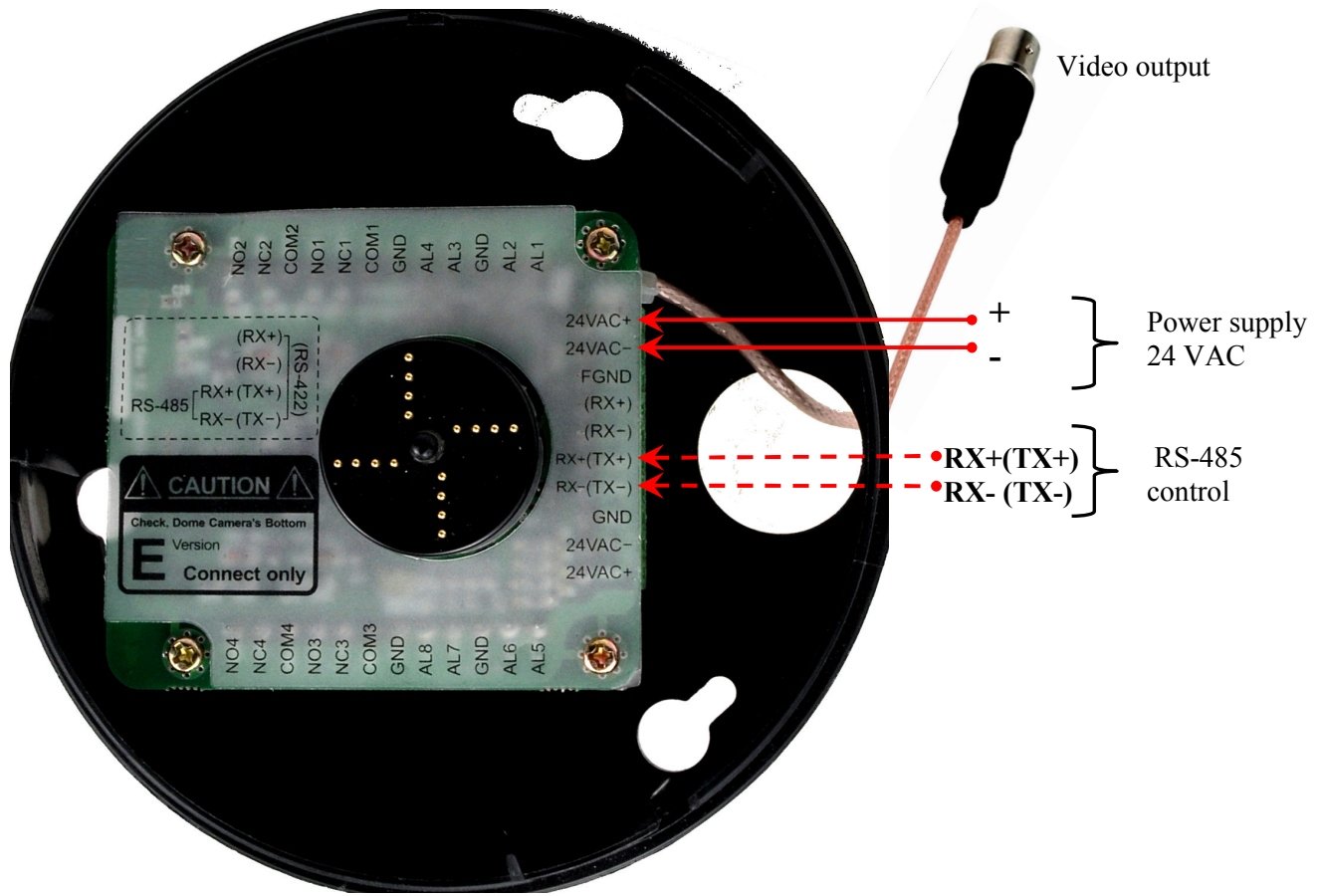
In case of star connection of camera telemetry lines the serial data distributor should be used e.g. NOVUS NVRS-016DD.

#### WARNING !

The camera should be powered by 24 VAC supply adaptor. The supply adaptor power should be greater than 20 W for camera module only and 80 W for camera with fans and heater.

## CAMA-II JUNCTIONS AND CONNECTIONS

### 6. CAMA-II JUNCTIONS AND CONNECTIONS



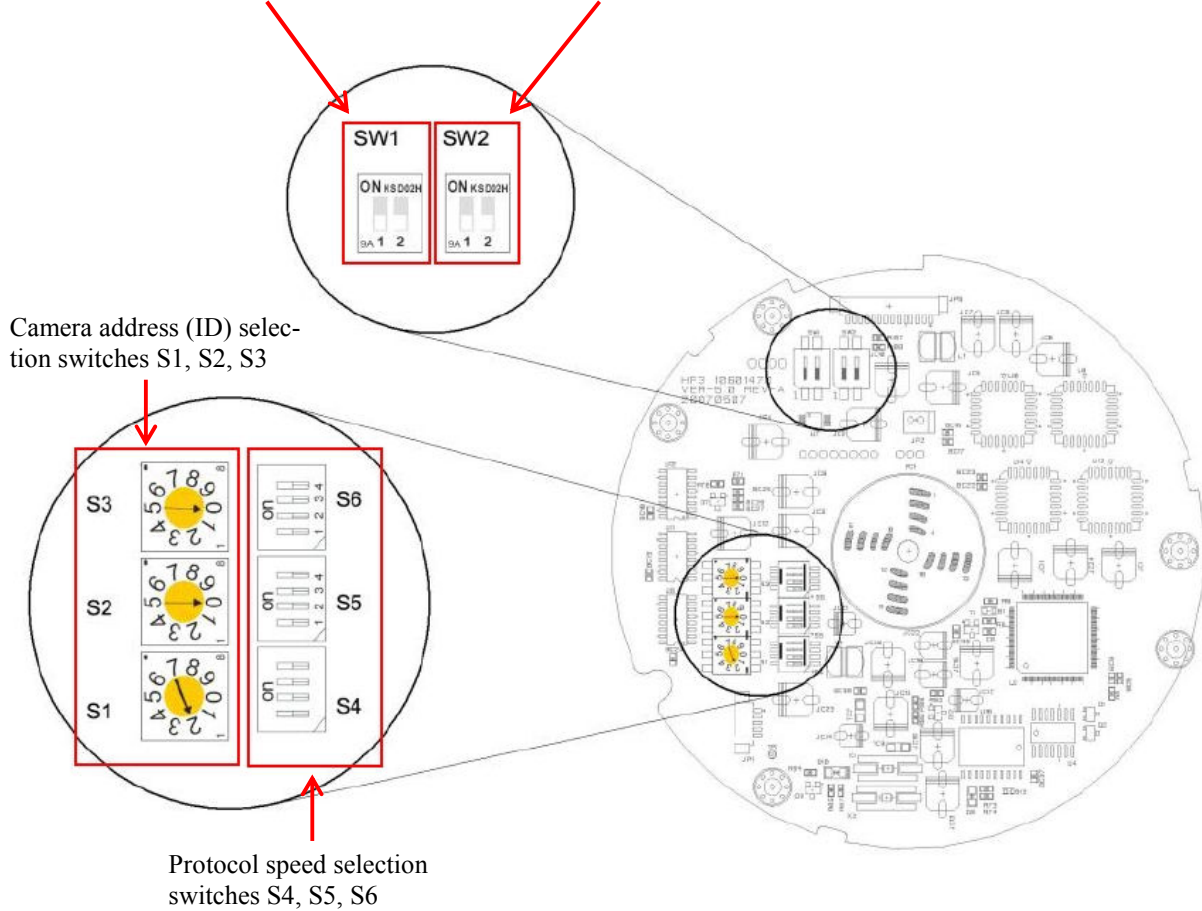
| Pin                | Function                          |
|--------------------|-----------------------------------|
| NO1 ~ NO4          | Alarm Outputs 1 ~ 4 (NO)          |
| NC1 ~ NC4          | Alarm Outputs 1 ~ 4 (NC)          |
| COM1 ~ COM4        | Common junction for alarm outputs |
| AL1 ~ AL8          | Alarm Inputs 1 ~ 8                |
| GND                | Ground                            |
| FGND               | Shield (leave not connected)      |
| 24 VAC+<br>24 VAC- | 24 VAC Power supply               |
| (RX+)              | RX+ (RS-422 standard)             |
| (RX-)              | RX- (RS-422 standard)             |
| RX+(TX+)           | RX+ (RS-485 standard)             |
| RX-(TX-)           | RX- (RS-485 standard)             |

## CAMA-II MICRO SWITCHES SETTINGS

### 7. CAMA-II MICRO SWITCHES SETTINGS

Termination selection switches SW1

Fail - safe network switch SW2



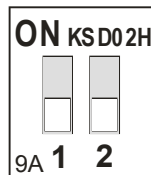
Camera address (ID) selection switches S1, S2, S3

Protocol speed selection switches S4, S5, S6

#### 7.1. CAMERA TERMINATION

The device which is connected at end of the line, whether it is a camera or a keyboard controller, must have the communication cable terminated by setting the appropriate DIP switch (in the CAMA-I it is marked SW 1 and is located on the bottom of the main camera module). Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 1.200 m. (CAT5 twisted pair cable).

SW 1

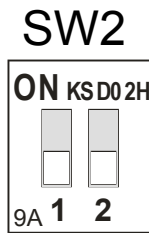


| SW1            | Switch 1 | Switch 2 |
|----------------|----------|----------|
| Terminated     | ON       | ON       |
| Not terminated | OFF      | OFF      |

## CAMA-II MICRO SWITCHES SETTINGS

### 7.2. FAIL - SAFE NETWORK

When a CAMA-II is controlled by some other device not marked by Novus, some errors may occur in the serial communication. This is caused by the control device without the fail - safe network function. To solve this problem set the dip switches described SW2 to ON in the nearest dome from the control device.



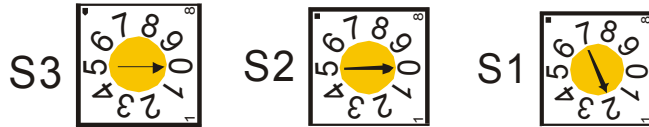
| SW2 | 1         | 2           |
|-----|-----------|-------------|
| ON  | PULL - UP | PULL - DOWN |
| OFF | NONE      | NONE        |

## CAMA-II MICRO SWITCHES SETTINGS

### 7.3. CAMERA ADDRESS (ID)

To assure proper camera operation and to prevent damage, each camera must have a unique address (ID). Camera address is set by three 10-position switches: S1 (for units), S2 (for tens) and S3 (for hundreds) that allow to set camera address from 0 up to 999.

When installing multiple dome cameras in a system and utilizing DVR, it is suggested that each camera address should match the DVR port number.

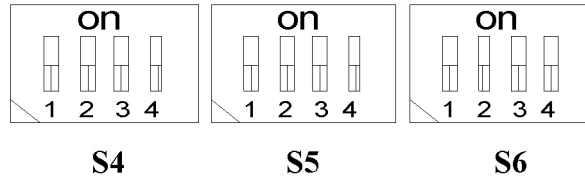


| Camera Address<br>(DOME ID) | Switches settings |    |    |
|-----------------------------|-------------------|----|----|
|                             | S3                | S2 | S1 |
| 1                           | 0                 | 0  | 1  |
| 2                           | 0                 | 0  | 2  |
| ...                         | -                 | -  | -  |
| 9                           | 0                 | 0  | 9  |
| 10                          | 0                 | 1  | 0  |
| 11                          | 0                 | 1  | 1  |
| 12                          | 0                 | 1  | 2  |
| ...                         | -                 | -  | -  |
| 99                          | 0                 | 9  | 9  |
| 100                         | 1                 | 0  | 0  |
| 101                         | 1                 | 0  | 0  |
| 102                         | 1                 | 0  | 2  |
| ...                         | -                 | -  | -  |
| 999                         | 9                 | 9  | 9  |

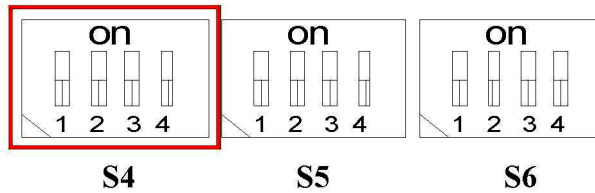
## CAMA-II MICRO SWITCHES SETTINGS

### 7.4. PROTOCOL SWITCH SETTINGS

Switches for transmission settings are divided into three sections S4, S5 and S6. Functions of each section are described below.

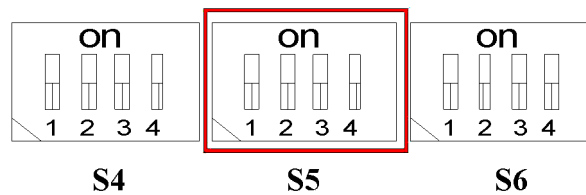


Switches 1 ~ 4 in the S4 section activate camera alarm inputs / outputs, allow to select NTSC / PAL OSD video system and RS-485 / RS-422 telemetry signal standard. Video system selection mode applies to OSD only, the video signal is determined by CCD type.



| S4 Switch | ON     | OFF     | Function                               |
|-----------|--------|---------|--|
| S4 - 1    | Enable | Disable | Enable / Disable alarm Inputs / Output |
| S4 - 2    | PAL    | NTSC    | OSD video standard selection           |
| S4 - 3    | -      | -       | Reserved                               |
| S4 - 4    | RS-422 | RS-485  | Telemetry standard selection           |

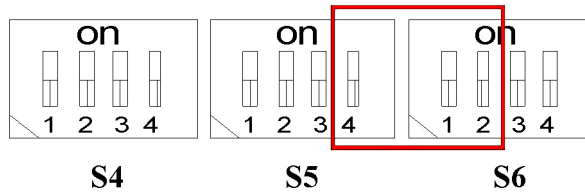
Switches 1 ~ 3 in the S5 section should be set to OFF position for automatic protocol detection. After turning on the power supply, the camera automatically sets the protocol by recognizing the first control command send from the keyboard. To change the protocol you have to restart the camera to let it automatically recognize the new protocol in the first command. Setting these switches to a position other then default can cause improper camera operation.



## CAMA-II MICRO SWITCHES SETTINGS

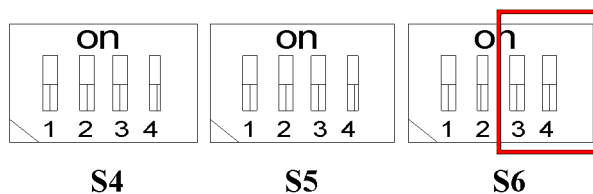
| S5 Switch                   |        |        | Telemetry protocol  |
|-----------------------------|--------|--------|---|
| S5 - 1                      | S5 - 2 | S5 - 3 |   |
| OFF                         | OFF    | OFF    | NOVUS-C, NOVUS-C1, PELCO-P, PELCO-D<br>(automatic protocol detection) |
| other position combinations |        |        | Reserved for future purposes (Not used).                              |

The switches 4 (section S5), 1 and 2 (section S6) are used for telemetry data transmission speed settings.



| S5 switch | S6 switch |        | Telemetry data transmission speed |
|-----------|-----------|--------|-----------------------------------|
| S5 - 4    | S6 - 1    | S6 - 2 |                                   |
| OFF       | OFF       | OFF    | 2400 bps                          |
| OFF       | OFF       | ON     | 4800 bps                          |
| OFF       | ON        | OFF    | 9600 bps                          |
| OFF       | ON        | ON     | 19200 bps                         |
| ON        | OFF       | OFF    | 38400 bps                         |
| ON        | OFF       | ON     | 57600 bps                         |
| ON        | ON        | OFF    | 115200 bps                        |
| ON        | ON        | ON     | 230400 bps                        |

Switches 3 and 4 in section S6 should be set to OFF. Setting the switches position to other than default one could affect improper camera operation.



| S6 switch       |        | Camera                                   |
|-----------------|--------|--|
| S6 - 3          | S6 - 4 |  |
| OFF             | OFF    | Default setting.                         |
| Other positions |        | Reserved for future purposes (Not used). |



## CAMA-II CONTROL USING NOVUS-C/NOVUS-C1 PROTOCOLS

### 8. CAMA-II CONTROL USING NOVUS-C/NOVUS-C1 PROTOCOLS

To make camera work properly with a keyboard you have to select:

- unique camera address for the whole system
- the same baud rate in the camera and in the keyboard (2400/4800/9600)

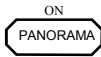

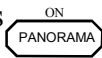





All the camera communication details are described in the keyboard instruction manual.

To start controlling the camera, type camera number using numerical keys and press  (when using NV-KBD40 keyboard) or press  (when using NV-KBD60 keyboard).

#### a) Using the OSD Menu

| Action                 | Function   |
|------------------------|--|
| Joystick left or right | Go into sub-menu.<br>Execute command.<br>Change value.<br>Navigate through menu items. |
| Joystick up or down    | Navigate through menu items.   |
| Joystick down          | Finish editing title.  |
| ZOOM handle twist      | Change value.<br>Enter editing title mode.   |

#### b) Controlling additional functions

| NV-KBD60 Keyboard   | NV-KBD40 Keyboard   | Function   |
|---|---|--|
|  |  | Turning on additional functions. List of additional functions is described below. To turn on a demanded function, select its number using numerical keys and press  or       |
|  |  | Turning off additional functions. List of additional functions is described below. To turn off an additional function, select its number using numerical keys and press  or  |

## CAMA-II CONTROL USING NOVUS-C/NOVUS-C1 PROTOCOLS

Description of additional functions is presented in the table below:




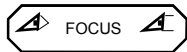






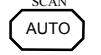











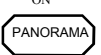









| No  | Function                                    |
|-----|---|
| 1   | Turn on / turn off relay no 1               |
| 2   | Turn on / turn off relay no 2               |
| 3   | Turn on / turn off relay no 3               |
| 4   | Turn on / turn off relay no 4               |
| 10  | Turn on / turn off infrared filter          |
| 11  | Turn on / turn off back light compensation  |
| 12  | Turn on / turn off digital zoom             |
| 13  | Turn on / turn off displaying camera status |
| 14  | Turn on / turn off zone description         |
| 15  | Turn on / turn off observation angle        |
| 100 | Turn on AES function                        |
| 101 | Turn on 1/3 sec shutter                     |
| 102 | Turn on 1/2 sec shutter                     |
| 103 | Turn on 1 sec shutter                       |
| 104 | Turn on / turn off wide dynamic range       |
| 105 | Turn on / turn off picture stabilizer       |
| 150 | Turn on / turn off picture invert           |

When controlling the CAMA-II camera with NV-KBD60 keyboard you can use the buttons at the right side of the keyboard, the numeric keys, SHUTTLE knob and some buttons to the left of the knob.

When controlling the CAMA-II camera with NV-KBD40 keyboard you can use function buttons, the numeric keys and the joystick.

## CAMA-II CONTROL USING NOVUS-C/NOVUS-C1 PROTOCOLS

c) NV-KBD60 and NV-KBD40 button functions are presented in the table below

| Symbol in the manual | NV-KDB60 Keyboard   | NV-KBD40 Keyboard   | Function   |
|----------------------|---|---|--|
| IRIS OPEN            |    |    | iris control - iris open, introduce characters, start programming movement     |
| IRIS CLOSE           |   |    | iris control - iris close, stop programming movement                           |
| FOCUS FAR            |    |    | focus control - focus far  |
| FOCUS NEAR           |   |    | focus control - focus near   |
| PRESET MOVE          |    |    | moving to preset   |
| PRESET SET           |   |   | setting the preset   |
| SCAN                 |  |  | auto scan function   |
| TOUR                 |  |  | tour function  |
| PATTERN              |  |  | pattern function   |
| MENU                 |  |  | entering camera menu, selection confirmation in the camera menu                |
| ESC                  |  |  | exiting the camera menu  |
| PROGRAM              |  |  | selecting the mode (TURBO or normal), programming the camera movement          |
| ON                   |  |  | turning on the additional functions  |
| OFF                  |  |  | turning off the additional functions   |
| GLOBAL               |  |  | global working mode - global preset calling, global day/night mode switching   |
| HOME                 |  |  | return to home position, canceling the settings in PRESET, TOUR, PATTERN menu. |
| ALARM                |  |  | canceling the alarms   |

## CAMA-II CONTROL USING PELCO-D/PELCO-P PROTOCOLS

### 9. CAMA-II CONTROL USING PELCO-D/PELCO-P PROTOCOLS

NOVUS-C/NVOUS-C1 telemetry protocols have been designed and optimized for controlling CAMA-I cameras. However, using PELCO-P/PELCO-D protocols is still possible but the controlling and programming methods are different. The biggest difference is direct presets calling (limited to 172 presets (1~32 and 100~240)) and special functions available by calling presets number 33 ~ 99.

To make camera work properly with keyboard you have to select:

- unique camera address for the whole system
- the same baud rate in the camera and in the keyboard (2400/4800/9600)

#### a) Using the OSD Menu

| Action                 | Function   |
|------------------------|--|
| Joystick left or right | Go into sub-menu.<br>Execute command.<br>Change value.<br>Navigate through menu items. |
| Joystick up or down    | Navigate through menu items.   |
| Joystick down          | Finish editing title.  |
| ZOOM handle twist      | Change value.<br>Enter editing title mode.   |

All the camera communication details are described in the keyboard instruction manual.

To start controlling the camera, type camera number using numerical keys and press F1 (when using NV-KBD40 keyboard) or press CAM (when using NV-KBD60 keyboard).

### WARNING !

For confirming a selected option in the camera menu or for answering “Yes” you have to call preset no. 95 using the numerical keys **9** and **5** and the button **PRESET MOVE**. For canceling the option and answering ”No” you have to call preset no. 96 using keyboard keys **9** and **6** and **PRESET MOVE**.

**CAMA-II CONTROL USING PELCO-D/PELCO-P PROTOCOLS**

## b) Accessing CAMA-II functions by calling presets

| <b>NOVUS Keyboard</b>                          | <b>PELCO Keyboard</b>                 | <b>Function</b>  |
|--|---------------------------------------|--|
| <b>1 + PRESET SET</b>                          | <b>1 + PRESET (2~3 s.)</b>            | Set preset 1   |
| ...  | ...                                   | ...  |
| <b>32 + PRESET SET</b>                         | <b>32 + PRESET (2~3 s.)</b>           | Set preset 32  |
| <b>1 + PRESET MOVE</b>                         | <b>1 + PRESET</b>                     | Move to preset 1   |
| ...  | ...                                   | ...  |
| <b>32 + PRESET MOVE</b>                        | <b>32 + PRESET</b>                    | Move to preset 32  |
| <b>33 + PRESET MOVE</b>                        | <b>33 + PRESET</b>                    | 180° horizontal flip   |
| <b>34 + PRESET MOVE</b>                        | <b>34 + PRESET</b>                    | Move camera to home (0°) position  |
| <b>60 + PRESET MOVE<br/>or SCAN</b>            | <b>60 + PRESET</b>                    | Auto scan menu   |
| <b>61 + PRESET MOVE<br/>or 1 + SCAN</b>        | <b>61 + PRESET</b>                    | Call auto scan 1   |
| ...  | ...                                   | ...  |
| <b>68 + PRESET MOVE<br/>or 8 + SCAN</b>        | <b>68 + PRESET</b>                    | Call auto scan 8   |
| <b>70 + PRESET MOVE<br/>or TOUR</b>            | <b>70 + PRESET</b>                    | Tour menu  |
| <b>71 + PRESET MOVE<br/>or 1 + TOUR</b>        | <b>71 + PRESET</b>                    | Call tour 1  |
| ...  | ...                                   | ...  |
| <b>78 + PRESET MOVE<br/>or 8 + TOUR</b>        | <b>78 + PRESET</b>                    | Call tour 8  |
| <b>80 + PRESET MOVE<br/>or PATTERN</b>         | <b>80 + PRESET</b>                    | Pattern menu   |
| <b>81 + PRESET MOVE<br/>or 1 + PATTERN</b>     | <b>81 + PRESET<br/>or 1 + PATTERN</b> | Call pattern 1   |
| ...  | ...                                   | ...  |
| <b>84 + PRESET MOVE<br/>or 4 + PATTERN</b>     | <b>84 + PRESET<br/>or 4 + PATTERN</b> | Call pattern 4   |
| <b>Programmable from<br/>camera menu level</b> | <b>1 + PATTERN (2~3 s.),<br/>ACK</b>  | Activates the procedure of programming<br>pattern 1, use the <b>ACK</b> key for closing<br>the programming procedure |
| ...  | ...                                   | ...  |




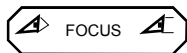




















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## CAMA-I CONTROL USING PELCO-D/PELCO-P PROTOCOLS

| NOVUS Keyboards                            | PELCO Keyboards                  | Function   |
|--|----------------------------------|--|
| ...  | ...                              | ...  |
| <b>Programmable from camera menu level</b> | <b>4 + PATTERN (2~3 s.), ACK</b> | Activates the procedure of programming pattern 4, use the <b>ACK</b> key for closing the programming procedure |
| <b>90 + PRESET MOVE</b>                    | <b>90 + PRESET</b>               | Alarm cancelling   |
| <b>91 + PRESET MOVE</b>                    | <b>91 + PRESET</b>               | Call the home function, erasing previous settings  |
| <b>92 + PRESET MOVE</b>                    | <b>92 + PRESET</b>               | Call auto pan function   |
| <b>93 + PRESET MOVE</b>                    | <b>93 + PRESET</b>               | Preset menu  |
| <b>95 + PRESET MOVE</b>                    | <b>95 + PRESET</b>               | <b>Entering camera menu,</b> in camera menu mode initiating and finishing camera control                       |
| <b>96 + PRESET MOVE</b>                    | <b>96 + PRESET</b>               | <b>Exit the menu without saving changes</b>  |
| <b>85 + PRESET MOVE</b>                    | <b>85 + PRESET</b>               | Activating relay output 1  |
| ...  | ...                              | ...  |
| <b>88 + PRESET MOVE</b>                    | <b>88 + PRESET</b>               | Activating relay output 4  |
| <b>69 + PRESET MOVE</b>                    | <b>69 + PRESET</b>               | Deactivating relay output 1  |
| <b>79 + PRESET MOVE</b>                    | <b>79 + PRESET</b>               | Deactivating relay output 2  |
| <b>89 + PRESET MOVE</b>                    | <b>89 + PRESET</b>               | Deactivating relay output 3  |
| <b>99 + PRESET MOVE</b>                    | <b>99 + PRESET</b>               | Deactivating relay output 4  |
| <b>100 + PRESET SET</b>                    | <b>100 + PRESET (2~3 s.)</b>     | Set preset 100   |
| ...  | ...                              | ...  |
| <b>240 + PRESET SET</b>                    | <b>240 + PRESET (2~3 s.)</b>     | Set preset 240   |
| <b>100 + PRESET MOVE</b>                   | <b>100 + PRESET</b>              | Move to preset 100   |
| ...  | ...                              | ...  |
| <b>240 + PRESET MOVE</b>                   | <b>240 + PRESET</b>              | Move to preset 240   |

## CAMA-I CONTROL USING PELCO-D/PELCO-P PROTOCOLS

c) NV-KBD60 and NV-KBD40 button functions are presented in the table below

| Symbol in the manual | NV-KDB60 Keyboard   | NV-KBD40 Keyboard   | Function   |
|----------------------|---|---|--|
| IRIS OPEN            |                |    | iris control - iris open, introduce characters, start programming movement                 |
| IRIS CLOSE           |   |    | iris control - iris close, stop programming movement                                       |
| FOCUS FAR            |                |    | focus control - focus far  |
| FOCUS NEAR           |   |    | focus control - focus near   |
| PRESET MOVE          |                |    | moving to preset   |
| PRESET SET           |               |   | setting the preset   |
| SCAN                 |              |  | auto scan function<br>(calling presets 60 ~ 68)  |
| TOUR                 |              |  | tour function<br>(calling presets 70 ~ 78)   |
| PATTERN              |              |  | pattern function<br>(calling presets 80 ~ 84)  |
| MENU                 |              |  | entering the camera menu, selection confirmation in the camera menu<br>(calling preset 95) |
| ESC                  |              |  | exiting the camera menu<br>(calling preset 96)   |
| PROGRAM              | <b>95</b> +  |  | selecting the mode (TURBO or normal), programming the camera movement                      |
| HOME                 | <b>96</b> +  |  | return to home position, canceling the settings in the PRESET, TOUR, PATTERN menu.         |

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## USING THE OSD MENU

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### 10. USING THE OSD MENU

Before programming or operating the CAMA-II camera, you have to select a desired camera number using numerical keys and press **CAM** (confirmation key).

Accessing the CAMA-II menu depends on the controller type and the protocol used. All the details regarding the camera communication parameters are described in the instruction manual of the keyboard.

#### WARNING !

The procedure of camera programming refers to the keys of the NV-KBD40 and the NV-KBD60 keyboards and the telemetry protocol NOVUS-C.

#### a) Camera controlling in TURBO mode

The mode of the camera can be changed to TURBO for faster movement - up to 380 degrees per second. The TURBO mode can be activated in three ways:

- permanently - by pressing the **PROGRAM** key, to deactivate the TURBO mode press the **PROGRAM** key once again.
- temporarily - by rotating the **SHUTTLE** knob. To go back to the normal mode release the **SHUTTLE** knob.
- From the level of **MOTOR SETUP** menu (description in chapter 10.9 point h1) .

To enter the camera menu press the **MENU** button, use the **ESC** button for closing the camera menu.

#### b) Camera **DOME MENU** structure

##### DOME MENU

AUTO SCAN  
 PRESET  
 TOUR  
 PATTERN  
 ALARM  
 AREA TITLE  
 PRIVACY ZONE  
 CAMERA  
 DOME SETUP  
 FUNCTION RUN  
 EXIT (ESC TO EXIT)

## USING THE OSD MENU

### 10.1 AUTO SCANS

CAMA-II series cameras support up to 17 programmed auto scans. To enter the auto scan menu press the **SCAN** button.

You can move through the menu and change parameters using the joystick. To change or select menu options move the joystick left or right.

#### a) **AUTO SCAN** menu structure

##### AUTO SCAN SETUP

```

NUMBER      : 01
TITLE       : A01
MODE        : NORMAL
SPEED       : 5 STEP
START ANGLE : 239.2 024.4 ---
END ANGLE   : 287.3 026.4 ---
SCAN DIR    : CCW
SWAP        : OFF
DWELL       : 03 SEC
SAVE AND EXIT (ESC TO CANCEL)

```

**NUMBER:** select the auto scan number

**TITLE:** select the auto scan title (max. 12 alphanumeric characters, the manner of introduction and the characters have been described in chapter 10.9 point h2);

**MODE:** select the mode of auto scan:

**NORMAL:** move from start point to end point in pan only;

**VECTOR:** move from start point to end point including tilt and zoom simultaneously and linearly;

**RANDOM:** move randomly between the start point and end point;

**SPEED:** set the auto scan speed from 1 to 13;

**START ANGLE:** set the initial angle of auto scanning;

**END ANGLE:** set the closing angle of auto scanning;

**SCAN DIR:** set the camera movement direction - clockwise / counterclockwise;

**SWAP:** swapping the closing angle and the initial angle of auto scan;

**DWELL:** set the waiting time on the **START** and **END ANGLE** points (from 3 up to 99 seconds);

## USING THE OSD MENU

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### b) Auto scans programming

Auto scan programming procedure:

1. Enter the auto scan menu by pressing **SCAN** button,
2. Use the joystick for selecting auto scan number and mode,
3. Move the cursor to the **START ANGLE** position and press the **PROGRAM** or **IRIS OPEN** button to enter the programming mode,
4. Use the joystick for placing the camera in the desired auto scan start position,
5. Press **PROGRAM** or **IRIS CLOSE** button for exiting the programming mode,
6. Move the cursor to the **END ANGLE** position and press the **PROGRAM** or **IRIS OPEN** button to enter the programming mode,
7. Use the joystick for placing the camera in the desired auto scan end position,
8. Press **PROGRAM** or **IRIS CLOSE** for exiting the programming mode,
9. Use the joystick for selecting scan direction and start / end angle swapping,
10. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

c) The previously programmed auto scans can be called in two ways:

1. After closing the camera menu, select the auto scan number using numerical keys and press **SCAN**.
2. Use the **RUN FUNCTION** menu (description in chapter 10.10)

## USING THE OSD MENU

### 10.2. PRESETS

CAMA-II series camera supports up to 240 programmed viewing locations (presets). Programmed presets can be called directly from the keyboard, used in tour function or used as a default action for home and alarm function.

To enter the preset menu press the *PRESET SET* button.

#### a) **PRESET** menu structure

```

PRESET SETUP

NUMBER      : 001
TITLE       : AUTO
CAMERA SET
DWELL       : 03 SEC
            12345678901234567890
00 *-----
02 -----
04 -----
06 -----
NEXT PAGE
SAVE AND EXIT (ESC TO CANCEL)

```

Presets menu consist of three pages enabling to program 80 presets each. To go on to next page select the **NEXT PAGE** position using the joystick.

Each preset can be given a name consisting of max. 12 alphanumerical characters (the manner of introduction and the characters have been described in chapter 10.9 point h2) given by the administrator. The operator can also program the focus control mode, exposure control, motion detection (**only model NVC-SD236DN**) and park time period in patrol function from 3 up to 99 seconds.

The preset table symbol meaning:

= : empty position - not programmed preset

\* : programmed preset

■ : current cursor position

To erase the selected preset, move the cursor to the desired preset position (marked \*) and press the *HOME* button.

Select the **SAVE AND EXIT** option to exit from menu and save changes or *ESC* to exit without saving changes.

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### b) CAMERA SETUP menu structure

```

PRESET CAMERA SETUP
FOCUS          : AUTO
MOTION         : ON
MOTION SETUP
AE SETUP
SAVE AND EXIT(ESC TO CANCEL)

```

**FOCUS:** select the focus mode for actual preset;

**AUTO:** automatic focus control (auto focus);

**MANUAL:** manual focus control using *FOCUS FAR / FOCUS NEAR* buttons;

**ONE PUSH:** automatic focus set after every joystic move;

**MOTION (NVC-SD236DN model only):** on/off motion detection for actual preset;

### c) MOTION SETUP menu structure (only model NVC-SD236DN)

```

MOTION SETUP
SENSITIVITY   : AUTO
POSITION      : ALL
DELAY         : 00 SEC
OUTPUT        : OFF
HOLD TIME: 03 SEC
SAVE AND EXIT(ESC TO CANCEL)

```

**SENSITIVITY:** set the motion detection sensitivity from 1 up to 15;

**POSITION:** set the area of motion detection:

**ALL:** motion detection is active on the whole screen;

**CENTER:** motion detection is active only in the middle of the screen;

**DELAY:** the delay time is used to make adjustments for scenes that have sudden changes such as lights and shadows created by headlights of nearby traffic. The motion action occurs only when the motion keeps continuously during the delay time;

**OUTPUT:** select the relay output that is activated in case of motion detection:

**OFF:** function is off;

**OUT1:** activation of relay output 1 after motion detect;

**OUT2:** activation of relay output 2 after motion detect;

**OUT3:** activation of relay output 3 after motion detect;

**OUT4:** activation of relay output 4 after motion detect;

## USING THE OSD MENU

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**HOLD TIME:** alarm dwell time after motion detect

Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

### d) **AE SETUP** menu structure

**AE SETUP** menu structure has been described in chapter 10.8. point c.

### e) Programming presets

Presets can be programmed in two ways:

- directly - move the camera to the desired position, select the preset number using numerical keys and press the **PRESET SET** button.
- from the camera menu - following the programming procedure :
  1. Press the **PRESET SET** button for entering the preset menu,
  2. Use the joystick for selecting the preset number, title and dwell time in the patrol function,
  3. Move the cursor to the desired preset position and press the **PROGRAM** or **IRIS OPEN** button to enter the programming mode,
  4. Use the joystick to move camera to desired position,
  5. Press **PROGRAM** or **IRIS CLOSE** button for exiting from the programming mode,

After execution of this action preset is already programmed. Additionally there is a possibility to program focus control, automatics exposition and motion detection (**NVC-SD236DN model only**) for each preset.

### f) Programming focus control for each presets

Focus control programming procedure:

1. Enter the preset menu by pressing **PRESET SET** button,
2. Use the joystick for selecting previously programmed preset,
3. Select the **CAMERA SETUP** menu,
4. Use the joystick for selecting focus control mode in position **FOCUS**,
5. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

## USING THE OSD MENU

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### g) Programming automatics exposition for each presets

Automatics exposition programming procedure:

1. Enter the preset menu by pressing **PRESET SET** button,
2. Use the joystick for selecting previously programmed preset,
3. Select the **CAMERA SETUP** menu and next **AE SETUP** menu,
4. Use the joystick for select and adjust the enable options,
5. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

**AE SETUP** menu structure and way of programming has been described in chapter 10.8.

### h) Programming motion detection setup for each presets

#### **WARNING !**

Motion detection function is available only in **NVC-SD236DN** model.

Motion detection programming procedure:

1. Enter the preset menu by pressing **PRESET SET** button,
2. Use the joystick for selecting previously programmed preset,
3. Select the **CAMERA SETUP** menu,
4. Use the joystick for select **ON** in **MOTION** position,
5. Select the **MOTION SETUP** menu and adjust the enable options,
6. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

### i) Calling presets

Previously programmed preset can be called in two ways:

1. After closing the camera menu, select the preset number using numerical keys and press **PRESET MOVE**.
2. Use the **RUN FUNCTION** menu (description in chapter 10.10).

## USING THE OSD MENU

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### d) Global presets calling

There is a possibility to call the same preset in all CAMA-II cameras in the CCTV system. To call preset globally use numeric keys for selecting the preset number (from 1 up to 240) and press the **GLOBAL** button.

All the cameras with the selected global mode and the NOVUS-C/NOVUS-C1 protocol will move to the selected preset (the preset has to be programmed before this operation).

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## USING THE OSD MENU

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### 10.3. TOURS

CAMA-II series cameras support up to 8 programmable tours. Each tour consists of up to 42 components: preset positions, patterns, auto scans or other tours (second-level tours). When using second-level tours, over 300 functions in a single first-level tour can be used. During patrolling, the camera remains in the preset position for the time period selected in preset configuration.

#### WARNING !

Second level tours cannot call for additional tours (third-level tours) - in this case they are simply ignored according to the scheme below:

If:

Tour1 consist of: Preset1→Preset2→Tour2→Tour 3

Tour2 consist of: Preset3→Preset4→**Tour4**→Preset5

Tour3 consist of: Preset6→Pattern1

Tour4 consist of: Preset7

Tour1 is executed in the following way:

Preset1→Preset2→Preset3→Preset4→Preset5→Preset6→Pattern1

Tour4 as a third-level tour is ignored and the next programmed function (Preset5) is executed.

To enter the tour menu, press the **TOUR** button.

a) **TOUR** menu structure:

```

          TOUR SETUP
NUMBER      : 01
TITLE       : T01
SCAN TYPE   : NORMAL
SPEED       : 5 STEP
DWELL       : 6 SEC
003 A08 P01 T02 --- --- ---
--- --- --- --- --- ---
--- --- --- --- --- ---
--- --- --- --- --- ---
--- --- --- --- --- ---
SAVE AND EXIT(ESC TO CANCEL)

```

## USING THE OSD MENU

Each tour function can be given a name consisting of max. 12 alphanumerical characters given by the administrator (the manner of introduction and the characters have been described in chapter 10.9 point h2) , camera movement mode and park time period (3-99 seconds) can be also defined.

Meaning of the tour table symbols:

- - - : function not programmed
- 003 : Preset 03 (1~240)
- A08 : Auto Scan 08 (1~17)
- P01 : Pattern 01 (1~8)
- T02 : Tour 02 (1~8)

### b) Programming tours

Tour programming procedure:

1. Press the **TOUR** button for entering the tour menu,
2. Use the joystick for selecting tour number, title, scan type, and dwell time between each tour functions,
3. Move the cursor to the desired position (marked ==), and insert to the programmed tour the previously programmed function: preset position, auto scan, pattern or second-level tour by:
  - turning the zoom knob to select the required preset,
  - pressing **SCAN** and turning the zoom knob to select the required auto scan function,
  - pressing **PATTERN** and turning the zoom knob to select the required pattern function,
  - pressing **TOUR** and turning the zoom knob to select the required tour function,
  - pressing **HOME** to erase current function,
4. Use the joystick for moving the cursor to next positions and select the function according to the description in point 3,
5. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

### WARNING !

Only the previously programmed (saved) functions (preset positions, auto scans, patterns, tours) are accessible for selection from the camera menu and can be used for tour programming.

## USING THE OSD MENU

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### c) Calling tours

Previously programmed tours can be called in two ways:

1. After closing camera menu, select the tour number using numerical keys and press **TOUR**,
2. Use the **RUN FUNCTION** menu (description in chapter 10.10).

### **WARNING !**

To assure the camera movement (pan only) between successive presets with a programmed speed, you have to insert an auto scan between the selected presets with the start angle position identical with the preceding preset and the end angle position identical with the following preset (e.g. 003 A08 016). In other way camera will move from position 003 to 016 in shortest possible way.

## USING THE OSD MENU

### 10.4. PATTERNS

CAMA-II series cameras supports up to 8 patterns. Each pattern consist of stored camera operations (pan / tilt, rotation, zoom, etc.), that can be activated directly from the keyboard or used in the home / tour functions. The maximum total time for patterns is 240 seconds (4 minutes) and can be shared by all 4 patterns.

To enter the pattern menu press the *PATTERN* button.

#### a) **PATTERN** menu structure

| PATTERN SETUP                 |       |      |         |
|-------------------------------|-------|------|---------|
| NO                            | TITLE | SEC  | PERCENT |
| 01 :                          | P01   | 000  | 00.0%   |
| 02 :                          | P02   | 000  | 00.0%   |
| 03 :                          | P03   | 000  | 00.0%   |
| 04 :                          | P04   | 000  | 00.0%   |
| 05 :                          | P05   | 000  | 00.0%   |
| 06 :                          | P06   | 000  | 00.0%   |
| 07 :                          | P07   | 000  | 00.0%   |
| 08 :                          | P08   | 000  | 00.0%   |
| TOTAL                         |       | 0000 | 00.0%   |
| SAVE AND EXIT (ESC TO CANCEL) |       |      |         |

Each pattern function can be given a name consisting of max. 12 alphanumerical characters given by the administrator (manner of introduction the characters has been described in chapter 10.9 point h2).

#### b) Programming patterns

Pattern programming procedure:

1. Press the *PATTERN* button for entering the pattern menu,
2. Use the joystick for selecting the pattern number for programming,
3. Use the joystick for setting the pattern title,
4. Press the *PROGRAM* or *IRIS OPEN* button for the programming mode,
5. Use the joystick to move the camera according to the desired pattern - the camera automatically stores all the operations (pan / tilt, zoom, focus etc.) during the programming procedure.
6. Press the *PROGRAM* or *IRIS CLOSE* button and move the joystick to exit from the programming mode,
7. Select the **SAVE AND EXIT** option to exit and save changes or *ESC* to exit without saving changes.

## USING THE OSD MENU

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To erase the selected pattern, move the cursor to the desired preset position and press the *HOME* button.

### c) Calling patterns

Previously programmed patterns can be called in two ways:

1. After closing the camera menu, select the pattern number using numerical keys and press *PATTERN*.
2. Use the **RUN FUNCTION** menu (description in chapter 10.10).

### **WARNING !**

If total pattern time exceeds 500 seconds, the camera automatically exits program mode.

## USING THE OSD MENU

### 10.5. ALARMS

The CAMA-II series camera is equipped with 2 units of 12-pin alarm blocks on the junction board. The camera supports up to 8 alarm inputs and 4 alarm outputs (both NO and NC type).

#### WARNING !

To activate the alarm junction and enable alarm menu, you have to set the micro switch 1 in S4 section to ON (referring to the description on page 17 in this manual).

When an alarm signal occurs on the alarm input, the camera activates the function programmed for this input. As an alarm function you can use any previously programmed preset, pattern, auto scan or tour.

#### a) ALARM menu structure

##### ALARM SETUP

| NO | PRI | FUN | IN  | OUT  | HLD | LATCH |
|----|-----|-----|-----|------|-----|-------|
| 01 | 1   | 001 | NC  | OUT2 | 03  | OFF   |
| 02 | 1   | A01 | NO  | OUT1 | 03  | OFF   |
| 03 | 1   | --- | OFF | OFF  | 03  | OFF   |
| 04 | 1   | --- | OFF | OFF  | 03  | OFF   |
| 05 | 1   | --- | OFF | OFF  | 03  | OFF   |
| 06 | 1   | --- | OFF | OFF  | 03  | OFF   |
| 07 | 1   | --- | OFF | OFF  | 03  | OFF   |
| 08 | 1   | --- | OFF | OFF  | 03  | OFF   |

DWELL : 03

RELAY OUT SETUP

SAVE AND EXIT (ESC TO CANCEL)

**NO:** alarm input number;

**PRIO:** alarm priority - there are 8 alarm priorities, the lower the number, the higher the priority. In case of simultaneous activation of two alarm inputs with the same priority, the programmed functions for each alarm input are called interchangeably. In case of alarm activation, the alarms with lower priority is temporarily suspended until the high priority alarm function is completed;

## USING THE OSD MENU

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**FUN:** function selection from available preset, auto scan, tour or pattern;

**IN:** alarm input type selection (**NO** - normally open, **NC** - normally closed) or disabling alarm input (**OFF**);

**OUT:** alarm (relay) output selection (**OUT1 ~ OUT4**) or disabling alarm output (**OFF**);

**HLD:** alarm hold time, programmed from 3 up to 99 seconds;

**LATCH:** alarm information screen display mode:

**ON** - shows all alarms information including past alarms;

**OFF** - shows currently activated alarms only;

### b) **RELAY OUT SETUP** menu structure

RELAY OUT SETUP

OUT1: ALARM

OUT2: 1 MIN

OUT3: ALARM

OUT4: 5 MIN

EXIT (ESC TO EXIT)

**OUT1, OUT2, OUT3, OUT4:** alarm outputs numbers;

**ALARM:** the relay output is operated during an alarm operation;

**1 MIN - 5 MIN:** the relay output is operated during this setting time only by the **RUN FUNCTION** menu (description in chapter 10.10) or short key from the keyboard;

## USING THE OSD MENU

### 10.6. AREA TITLES

CAMA-II series camera supports up to 16 area titles defined by start and end angles. The area titles are displayed on the monitor when camera moves between the programmed angles.

#### a) AREA TITLE menu structure

```

                                AREA TITLE SETUP

NO      TITLE      START  END
01 -----
02 -----
03 -----
04 -----
05 -----
06 -----
07 -----
08 -----
NEXT PAGE
SAVE AND EXIT(ESC TO CANCEL)

```

Each area can be given a name consisting of max. 12 alphanumeric characters given by the administrator (manner of introduction the characters has been described in chapter 10.9 point h2). For program area titles from 9 - 16 select **NEXT PAGE** position.

#### b) Programming area titles

Area title programming procedure:

1. Use the joystick for selecting area title number from 1 up to 16,
2. Move the cursor to the **TITLE** position and set the area title,
3. Move the cursor to **START** position, press **PROGRAM** or **IRIS OPEN** button for programming mode and move the camera to a desired start angle position using the joystick,
4. Press the **PROGRAM** or **IRIS CLOSE** button for exiting the programming mode,
5. Move the cursor to the **END** position, press the **PROGRAM** or **IRIS OPEN** button to enter the programming mode and move the camera to a desired end angle position using the joystick,
6. Press the **PROGRAM** or **IRIS CLOSE** button for exiting the programming mode,
7. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

For erasing programmed area move the cursor to the desired area position and press the **HOME** button.

## USING THE OSD MENU

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### 10.7. PRIVACY ZONES

If there are any areas that require special privacy in the CAMA-II camera monitoring range, the picture zone masking function may be used. CAMA-II series cameras support up to 8 programmable dynamic privacy zones.

#### a) **PRIVACY ZONE** menu structure

##### PRIVACY ZONE SETUP

| NO. | TITLE    | METHOD    |
|-----|----------|-----------|
| 01  | ABC----- | ON V. OFF |
| 02  | DEF----- | ON BLOCK  |
| 03  | -----    | OFF ----- |
| 04  | -----    | OFF ----- |
| 05  | -----    | OFF ----- |
| 06  | -----    | OFF ----- |
| 07  | -----    | OFF ----- |
| 08  | -----    | OFF ----- |

SAVE AND EXIT (ESC TO CANCEL)

Each privacy zone can be given a name consisting of max. 12 alphanumeric characters assigned by the administrator (manner of introduction the characters has been described in chapter 10.9 point h2).

#### b) Privacy zone programming

Privacy zone programming procedure:

1. Use the joystick to select the position from 1 to 8,
2. Move the cursor to the **TITLE** position and set the privacy zone title,
3. Press the **PROGRAM** or **IRIS OPEN** button to enter the programming mode and move the camera to a desired zone position using the joystick,
4. Press the **PROGRAM** or **IRIS CLOSE** button for exiting the programming mode,
5. To enable the programmed zone, change the next position to **ON** and select the blocking mode: **V.OFF** for video loss or **BLOCK** for block masking on a specified area.
6. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

For erasing a programmed privacy zone, move the cursor to the desired zone position and press the **HOME** button.

## USING THE OSD MENU

### 10.8. CAMERA SETUP

#### WARNING !

The camera menu options may vary depending on the camera model. This concerns particularly the camera auto exposure feature.

#### CAMERA SETUP menu structure

##### CAMERA SETUP

```

FOCUS CONTROL
WB CONTROL
AE CONTROL
LINE LOCK CONTROL
SHARPNESS      : 7
DIGITAL ZOOM   : OFF
IMAGE FLIP     : OFF
PRESET FREEZE  : OFF
BRIGHT OFFSET  : 0
SAVE AND EXIT (ESC TO CANCEL)

```

#### a) FOCUS CONTROL submenu structure

##### FOCUS SETUP

```

MODE           : AUTO
AF SENSITIVITY : NORMAL
FOCUS LIMIT    : NORMAL
SAVE AND EXIT (ESC TO CANCEL)

```

**MODE:** focus control mode selection:

**AUTO:** automatic focus control (auto focus);

**MANUAL:** after every move of the joystick camera automatically sets the focus and after then switches to the manual focus control using *FOCUS FAR* / *FOCUS NEAR* buttons;

**ONE PUSH:** automatic focus control after every move of the joystick;

**CONSTANT MANUAL (option not available in NVC-SD222DN model) :** focus control using *FOCUS FAR* / *FOCUS NEAR* buttons;

**AF SENSITIVITY (option not available in NVC-SD222DN model) :** auto focus sensitivity level selection:

## USING THE OSD MENU

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**HIGH:** this option is useful only when camera is monitoring fast motion;

**LOW:** offers better focus stability. In low light conditions and with dynamic changes of brightness it enables taking stable images of moving objects;

**FOCUS LIMIT:** this distance is approximate and the focus operates from the setting value;

### b) WB CONTROL submenu structure

#### WB SETUP

```

MODE      :      AUTO
R GAIN    :      210
B GAIN    :      210

```

EXIT(ESC TO EXIT)

**MODE:** white balance mode selection:

**AUTO:** automatic white balance in color temperature range from 3000 K up to 7500 K;

**INDOOR:** white balance level for indoor light conditions;

**OUTDOOR:** white balance level for outdoor light conditions;

**ONE PUSH:** camera automatically sets the white balance after every joystick move;

**ATW:** automatic white balance in color temperature range from 2000 K up to 10000 K. This mode is recommended for most applications;

**MANUAL:** white balance control by setting the saturation level for red color (**RGAIN** in 0 ~ 255 range) and blue color (**BGAIN** in 0 ~ 255 range) manually;

**AWB:** automatic white balance mode;

**WAWB:** automatic white balance mode for wide range of color temperatures;

### WARNING !

**AWB** and **WAWB** modes are available only for NVC-SD222DN camera, while **AUTO**, **ATW** and **ONE PUSH** modes are available only for NVC-SD18DNA, NVC-SD26DN and NVC-SD36DN cameras.

## USING THE OSD MENU

### c) AE CONTROL submenu structure

#### AE SETUP

```

MODE           : AUTO
SLOW SHUTTER  : OFF
IRIS          : AUTO
GAIN          : AUTO
BRIGHT       : AUTO
SHUTTER      : AUTO
BACKLIGHT    : OFF
NIGHT SHOT   : AUTO
WDR          : OFF
SLOW RESPONSE : 1
SAVE AND EXIT(ESC TO CANCEL)

```

#### **MODE:** exposure control mode selection:

**AUTO:** automatic exposure mode, the shutter is fixed to 1/50 sec. for PAL camera, and the light focused on the CCD module is limited by changing the iris, gain and brightness levels. For **SHUTTER** set to **AUTO** mode, the AES is optimized for light condition. **AUTO** mode is set by default and it is recommended for most applications;

**MANUAL:** iris, gain and shutter levels are adjusted manually (slow shutter function is disabled in this mode);

**SHUTTER PRIO:** the shutter level is adjusted manually. Gain and iris levels automatically change depending on the light conditions (slow shutter function is disabled in this mode);

**IRIS PRIO:** the iris level is adjusted manually. Gain and shutter levels automatically change depending on the light conditions (slow shutter function is disabled in this mode);

**BRIGHT (option not available in NVC-SD222DN model):** the bright level is adjusted manually;

**SLOW SHUTTER:** enable (**ON**), disable (**OFF**) the slow shutter function;

**IRIS:** manual adjustment of the iris level :

Models NVC-SD226DN/NVC-SD236DN: range from F1.6 to F28, CLOSE;

Model NVC-SD222DN: the range from F1.6 to F32, CLOSE;

Model NVC-SD218DN: the range from F1.4 to F32, CLOSE;

**GAIN:** manual adjustment of the gain level:

Model NVC-SD222DN: the range from OFF, 2 to 30 DB;

Other models: the range from -3 to 28 DB;

## USING THE OSD MENU

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**BRIGHT:** adjustment of the brightness level:

Model NVC-SD222DN: the range from 0 to 90;

Other models: the range from 0 to 31;

**SHUTTER:** manual adjustment of the shutter speed in the range from 1/1 to 1/10 000;

**BACKLIGHT:** back light compensation function can be enabled (**ON**) or disabled (**OFF**), This function is used for exposing the objects in front of bright backgrounds;

**NIGHT SHOT:** day / night mode of the CAMA-II series cameras (colour or B/W picture) can be switched automatically, manually or globally. When switching to B/W mode the infra red cut-off filter is removed for more effective camera operation in low light conditions:

**AUTO:** camera automatically switches from colour to B/W mode for low light conditions;

**MANUAL:** camera mode is switched manually from menu level, **ON** - B/W mode, **OFF** - colour mode;

**GLOBAL:** all CAMA-II series cameras in the video system can be switched simultaneously to a desired mode by one command from the keyboard. To activate the global mode you have to set all cameras to **GLOBAL** in the night shot control option;

### CAMERA SETUP -> NIGHT SHOT:GLOBAL

To switch cameras to night mode (B/W picture), select **888** using numerical keys and press the **GLOBAL** button from the keyboard.

To switch cameras to day mode (colour picture), select **999** using numerical keys and press the **GLOBAL** button from the keyboard.

### WARNING !

Global mode is available only for CAMA-II series cameras that operate via the NOVUS-C / NOVUS-C1 protocol.

**WDR: (enabled only for NVC-SD222DN and NVC-SD236DN cameras)** wide dynamic range function, used for scenes with strong differences in light conditions. This mode can not be used with backlight compensation (**BLC**) function simultaneously;

**SLOW RESPONSE (enabled only for NVC-SD236DN cameras):** the slow response function allows to lengthen the automatic exposure response speed from 1 up to 32 times. Using the slow response function can still easily distinguish the portions of the image surrounding the headlights;

## USING THE OSD MENU

### d) LINE LOCK CONTROL submenu structure

#### LINE LOCK SETUP

```

MODE      :      INTERNAL
PHASE     :      000
SAVE AND EXIT(ESC TO CANCEL)

```

**MODE:** CAMA-II series cameras can be synchronized with the internal generator: (**INTERNAL**) or from the power supply frequency (**EXTERNAL**);

**PHASE:** phase adjustment from 0° up to 255° with 1° step;

e) **SHARPNESS:** Adjustment of the sharpness level from 0 up to 15, where 15 is for the sharpest picture.

### f) DIGITAL ZOOM:

**OFF** - digital zoom function is disabled (full zoom range is limited to the optical zoom only);

**2X** - digital zoom value is limited 2x;

**4X** - digital zoom value is limited to 4x;

**MAX** - 12x (11x for NVC-SD222DN cameras) maximum digital zoom range;

### WARNING !

**2X** and **4X** zoom limitation modes are disabled in NVC-SD222DN cameras.

Please note that when high value of digital zoom is used, the picture quality is getting worse, and the compression block of pixels becomes visible. This effect is related to the digitalization process and it is normal for digital zoom.

g) **IMAGE FLIP:** function can be enabled (**ON**) or disabled (**OFF**). When it is enabled it turns the video output from the camera upside down and reverse it horizontally.

h) **PRESET FREEZE:** : function can be enabled (**ON**) or disabled (**OFF**). When the function is enabled the image is frozen during the preset.

i) **BRIGHT OFFSET:** adjustment of the brightness level from -7 up to 7.

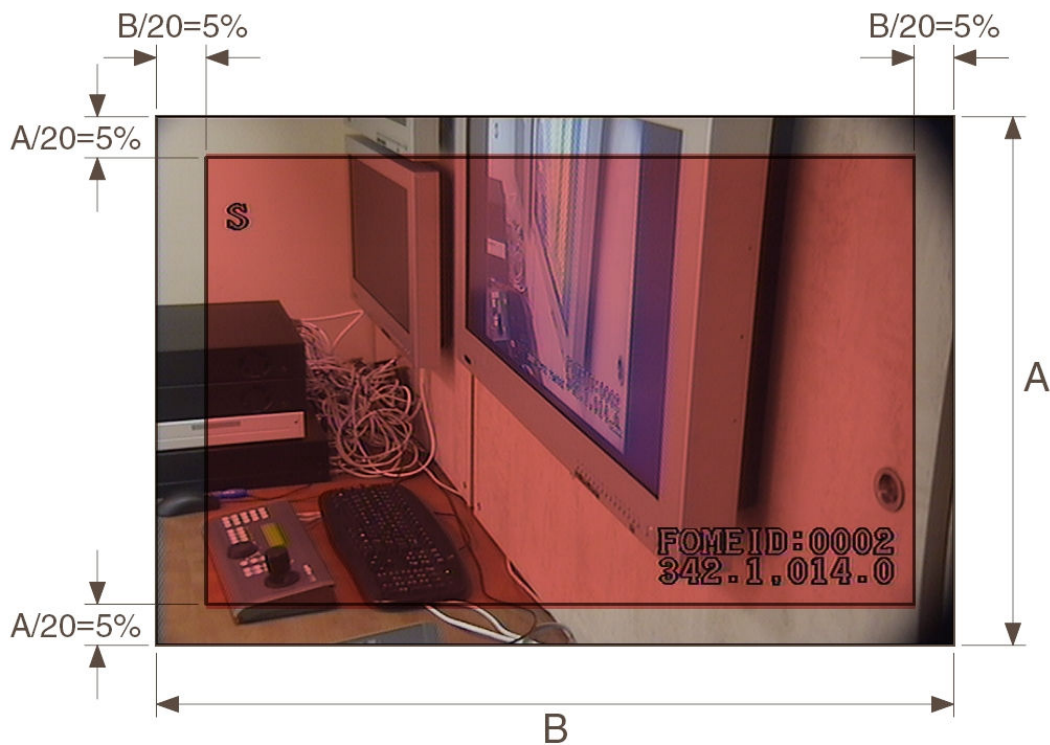
### WARNING !

**IMAGE FLIP** and **BRIGHT OFFSET** functions are disabled in NVC-SD222DN cameras.

## USING THE OSD MENU

### WARNING !

For NVC-SD226DN camera the eclipse phenomenon occurs. This is because a sufficient amount of aperture is not available due to the CCD size and the lens structure of this Sony camera module. However, it has been verified that the eclipse is not visible in case of more than 90% of effective image. Regular CCTV monitor is not able to show 100% size of picture from the camera, only monitors equipped with underscan function can display 100% size of the picture. Because of that the eclipse phenomenon is mostly visible on monitors with underscan function enabled. For your reference, see the following diagram:



- : Normal scan display area
- : Under scan display area

## USING THE OSD MENU

### 10.9. DOME SETUP

#### DOME SETUP menu structure

```

CONFIGURATION MENU

LANGUAGE           : ENGLISH
HOME FUNCTION SETUP
OSD DISPLAY
VIEW ANGLE SETUP
INITIALIZE DATA
ORIGIN OFFSET
DOME RESET
SYSTEM MENU
SYSTEM INFORMATION
SAVE AND EXIT (ESC TO CANCEL)

```

a) **LANGUAGE:** select the menu language (English, French, German, Italian, Polish, Portuguese and Spanish). When the menu is displayed in other than English language use the **APPENDIX 1** page 61.

#### b) HOME FUNCTION SETUP submenu structure

```

HOME FUNCTION SETUP

HOME FUNCTION      : NONE
FUNCTION NUMBER    : ----
WAITING TIME       : 120 SEC
FUNCTION ENABLE    : OFF
SAVE AND EXIT (ESC TO CANCEL)

```

After the programmed time period of keyboard operator inactivity has passed the camera automatically goes to the programmed function (move to preset position, tour, auto scan, or pattern). Time period for function activation can be set in the range from 10 up to 240 seconds.

**HOME FUNCTION:** select the function for keyboard inactivity (**NONE**, **PRESET**, **TOUR**, **PATTERN**, **AUTOSCAN**);

**FUNCTION NUMBER:** selected function number;

**WAITING TIME:** select time period for function activation;

**FUNCTION ENABLE:** enable (**ON**) / disable (**OFF**) home function;

## USING THE OSD MENU

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### c) OSD DISPLAY submenu structure

#### OSD DISPLAY SETUP

```

CAMERA TITLE      : DOMEID
VIEW DIRECTION    : OFF
DOME OSD DISPLAY  : ON
AREA TITLE        : OFF
PRESET TITLE      : CONSTANT
FOCUS EXPOSURE   : ON
OSD POSITION SETUP

```

SAVE AND EXIT (ESC TO CANCEL)

**CAMERA TITLE:** camera can be described by max. 6 alphanumeric characters given by the administrator (the manner of introduction and the characters has been described in chapter 10.9 point h2);

**VIEW DIRECTION:** **ON** option sets current direction as N (north) and the coordinate angle to 000°. **OFF** option hides the directional titles: W, E, N, S;

**DOME OSD DISPLAY:** enables screen display: coordinates, camera number and title;

**AREA TITLE:** this option enables displaying of area titles when the camera moves;

**PRESET TITLE:** set the preset title display time in the preset mode:

**CONSTANT:** display the preset title during preset dwell time;

**03 - 120 SEC :** set the preset title display time from 03 to 120 SEC;

**OFF:** disable the preset title display;

**FOCUS EXPOSURE:** function can be enabled (**ON**) or disabled (**OFF**). When it is enabled the information about focus and exposure function is displayed on the screen;

**OSD POSITION SETUP:** the menu allows for matching the position of OSD information;

OSD position programming procedure:

1. Enter to the **OSD POSITION SETUP** menu,
2. Use the joystick for selecting one of the OSD option,
3. Press the *PROGRAM* or *IRIS OPEN* button for the programming mode,
4. Use the joystick to move the OSD option to the desired position,
5. Press the *PROGRAM* or *IRIS CLOSE* to exit from the programming mode,
6. Select the **SAVE AND EXIT** option to exit and save changes or *ESC* to exit without saving changes.

## USING THE OSD MENU

### d) VIEW ANGLE SETUP submenu structure

#### VIEW ANGLE SETUP

```
PANNING RANGE
FLIP      : ON
TILT OVER ANGLE : W/O BUBBLE
SAVE AND EXIT (ESC TO CANCEL)
```

### d1) PANNING RANGE submenu structure

The menu allows for setting the limits for camera movement. The camera operates only in the area selected by the programmed panning limits.

#### PANNING RANGE SETUP

```
RIGHT LIMIT : 003.2
LEFT LIMIT  : 019.4
ENABLE      : OFF
SWAP        : OFF
AUTO PAN    : ON
SAVE AND EXIT (ESC TO CANCEL)
```

**RIGHT LIMIT:** right limit panning setting;

**LEFT LIMIT:** left limit panning setting;

Panning range programming procedure:

Move cursor to left / right limit position and press *PROGRAM* or *IRIS OPEN* button, then move camera to desired position. Press *PROGRAM* or *IRIS CLOSE* button for exiting the programming mode.

**ENABLE :** enables the panning limitation function;

**SWAP :** left and right limits exchange;

**AUTO PAN: :** function can be enabled (**ON**) or disabled (**OFF**). When it is enabled it will applies limits on the auto pan (endless panning);

d2) **FLIP:** automatic flip function - the camera turns 180 degrees automatically to allow monitoring objects directly under the camera. After reaching 90-degree tilt position, the camera automatically flips, so the image is not displayed upside down.

d3) **TILT OVER ANGLE:** This option is used to set the limit of the horizontal view angle so that the trim ring or ceiling does not obstruct the horizontal image when zooming out (wide angle).

## USING THE OSD MENU

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**ON:** when this option is set, the camera tilts up over the horizon (about - 10 degrees);

**W / O BUBBLE:** the tilt range of the camera is limited to see the horizon so the picture displays part of the ceiling line;

**WITH BUBBLE:** the tilt range of the camera is limited to see below the horizon (+ 10 degrees);

**WARNING!**

In case of NVC-SD222DN it is only possible to enable (**ON**) or disable (**OFF**)

**TILT OVER ANGLE** function.

e) **INITIALIZE DATA** submenu structure

INITIALIZE DATA

FACTORY DEFAULT

ERASE PROGRAMMED DATA

PRESET FOCUS DEFAULT

EXIT(ESC TO EXIT)

**FACTORY DEFAULT:** select this data for bringing back the default (pre-programmed) camera settings. The default settings are stored in internal flash memory and you can get back these settings during the camera operation;

**ERASE PROGRAMMED DATA:** select this option for erasing all auto scan, preset, tour, pattern, alarm, area title, privacy zone, camera and dome data. You will be asked to enter **ON** (erase position) or **OFF** (do not erase position). Only origin offset settings are not erased. The offset value can be zeroed only with default set of offset origin menu. When you desire to erase data then select **ERASE**, or if you want to exit without erasing press **ESC** or select **SAVE AND EXIT (ESC TO CANCEL)** position;

**PRESET FOCUS DEFAULT:** the menu set the default mode of the focus when you save the preset. Enable to select **AUTO / MANUAL / ONE PUSH** (description of enable options in chapter 10.8 point a);

## USING THE OSD MENU

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### f) **ORIGIN OFFSET** submenu structure

```

OFFSET SETUP

PAN OFFSET   : 000.0
TILT OFFSET  : 000.0
ENABLE       : OFF
SAVE AND EXIT (ESC TO CANCEL)

```

This function enables scaling of pan and tilt values by setting the offsets. This feature is useful to align a new camera coordinate settings exactly the same as the previously installed camera.

### g) **DOME RESET** submenu structure

```

DOME RESET

ARE YOU SURE ?

CANCEL
OK

```

This feature is used to reset the camera by menu command to initialize and auto calibrate the camera exactly like after turning off the power supply.

To restart select **OK** , to cancel the operation select **CANCEL** or press **ESC** button.

### h) **SYSTEM MENU** submenu structure

```

OFFSET SETUP

MOTOR SETUP
PASSWORD EDIT
ORGIN CHECK
PROGRAM UPGRADE
PASSWORD ENABLE   : OFF
MENU TIMEOUT     : OFF
BLINK CURSOR     : OFF
DOME ANSWER      : ON
SAVE AND EXIT (ESC TO CANCEL)

```

## USING THE OSD MENU

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### h1) MOTOR SETUP submenu structure

#### MOTOR SETUP

```

PROPORTIONAL P/T      : ON
P/T MODE               : NORMAL
SLOW PAN MAXIMUM      : 40°/S
SLOW TILT MAXIMUM     : 40°/S
NORMAL PAN MAXIMUM    : 90°/S
NORMAL TILT MAXIMUM   : 90°/S
TURBO PAN MAXIMUM     : 360°/S
TURBO TILT MAXIMUM    : 100°/S
SAVE AND EXIT (ESC TO CANCEL)

```

**PROPORTIONAL P/T:** enable (**ON**), disable (**OFF**), when this function is enabled the pan and tilt speed of camera depends on actual zoom set;

**P/T MODE:** set the pan and tilt speed mode, available **SLOW, NORMAL, TURBO:**

**SLOW PAN MAXIMUM : 40°/S** : set the speed from 19° to 90° /second;

**SLOW TILT MAXIMUM : 40°/S** : set the speed from 19° to 90° /second;

**NORMAL PAN MAXIMUM : 90°/S** : set the speed from 40° to 360° /second;

**NORMAL TILT MAXIMUM : 90°/S** : set the speed from 40° to 200° /second;

**TURBO PAN MAXIMUM : 360°/S** : set the speed from 200° to 380° /second;

**TURBO TILT MAXIMUM : 100°/S** : set the speed from 90° to 300° /second;

#### WARNING!

The **TURBO MODE** can be also turned on with use of the **PROGRAM** button from the keyboard.

### h2) PASSWORD EDIT submenu structure

#### PASSWORD EDIT SETUP

```

INPUT PASSWORD
PASSWORD

```

```

A B C D E F G H I J

```

```

K L M N O P Q R S T

```

```

U V W X Y Z 0 1 2 3

```

```

4 5 6 7 8 9 ( )

```

```

SAVE AND EXIT (ESC TO CANCEL)

```

## USING THE OSD MENU

This menu is assigned to change a password with 6 alphanumeric character.

Password changing procedure:

1. Enter the **PASSWORD EDIT SETUP** menu,
2. Use the joystick and *IRIS OPEN* button for selecting the characters,
3. After selecting 6 characters confirm entered password,
4. Select the **SAVE AND EXIT** option to exit and save changes or **ESC** to exit without saving changes.

### WARNING!

The default password is **555555**.

h3) **ORGIN CHECK**: when you find the wrong position of the dome during operation , execute this origin check and the dome camera will arrange the right position after the origin check operation. To execute the **ORGIN CHECK** function enter to the menu and select **OK**.

h4) **PROGRAM UPGRADE**: serve function.

h5) **PASSWORD ENABLE**: **ON** - requires password to enter to the menu, **OFF** - disable password.

h6) **MENU TIME OUT**: **ON** - the menu is displayed for 5 minutes, **OFF** - display menu for unlimited time.

h7) **BLINK CURSOR**: **ON** - blinking cursor, **OFF** - no blinking cursor.

h8) **DOME ANSWER**: **ON** - this option is helpful to escape the collision of the command on RS-485 bus, **OFF** - no acknowledgement command from the dome.

i) **SYSTEM INFORMATION** submenu structure

#### SYSTEM INFORMATION

```

CAMERA TYPE   : 1010P
H/W VERSION   : V5.00
ROM VERSION   : V3.0
PROTOCOL      : CAMA-II
BAUDRATE      : 9600
  
```

EXIT(ESC TO EXIT

## USING THE OSD MENU

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This menu provides essential information about the camera. The values shown here cannot be modified. You can determine the camera module information, software and hardware version as well as telemetry protocol settings.

**CAMERA TYPE** : camera module type;

**H/W VERSION** : hardware version (camera electronics);

**ROM VERSION** : firmware version (camera software);

**PROTOCOL** : protocol selected for camera controlling;

**BAUDRATE** : the transmission (telemetry) speed;

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## USING THE OSD MENU

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### 10.10. FUNCTION RUN

The **FUNCTION RUN** menu allows you to execute the function without using the function keys like Preset, Pattern, Tour or Scan.

#### FUNCTION RUN SETUP

|                      |   |      |
|----------------------|---|------|
| PRESET               | : | 001  |
| PATTERN              | : | ---  |
| TOUR                 | : | 001  |
| SCAN                 | : | ---  |
| HOME                 |   |      |
| AUTO PAN             |   |      |
| RELAY OUT            | : | ---- |
| EXIT (ESC TO CANCEL) |   |      |

#### WARNING!

To execute the function you should store it first.

Before entering **FUNCTION RUN** menu turn off the TURBO mode.

The **RELAY OUT** function can be operated only when the relay output setup has time in the **ALARM** menu.

Using **FUNCTION RUN** menu procedure:

1. Enter the **FUNCTION RUN** menu,
2. Use the joystick for selecting the desired function and (if it is necessary) number of the function ,
3. Press **PROGRAM** or **IRIS OPEN** button to execute the selected option ( if you press the **PROGRAM** button to run function you have to move the joystick in any direction ).

## MOUNTING THE CAMERA

### 11. MOUNTING THE CAMERA

For mounting CAMA-II series camera on the suspended ceiling you have to use the special **NVH-SDHKIT** adapter. For outdoor camera wall or ceiling mounting you have to use **NVH-SD40EH** outdoor housing and one of three available brackets which should be bought separately.

The camera can be mounted directly on flat surfaces (ceilings) without any additional mounting adapters.

#### WARNING !

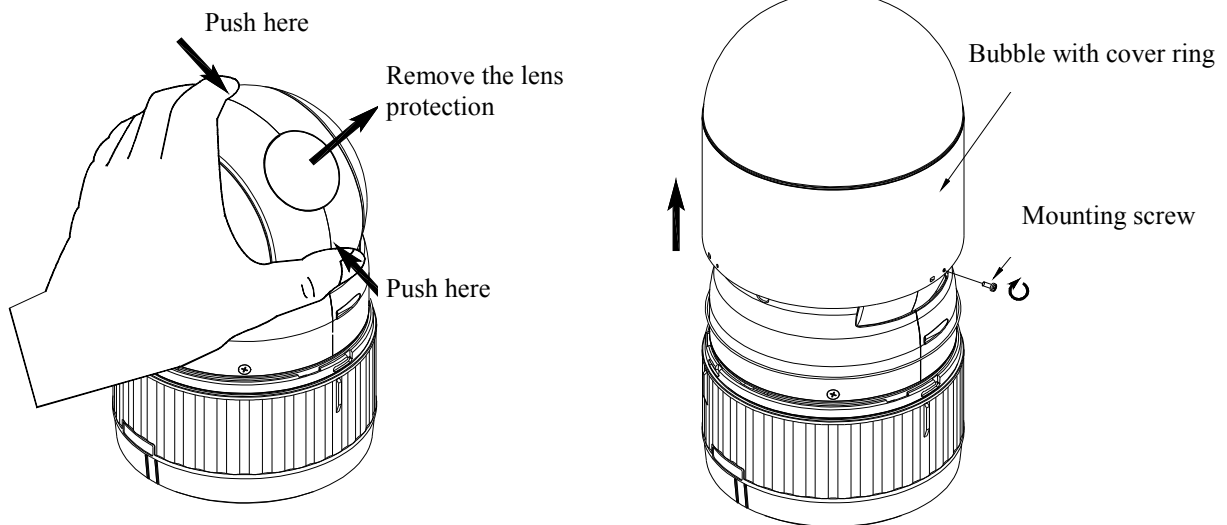
Entire installation process of CAMA-II series should be carried out by (or proceed under supervision of) qualified service personnel or authorized security systems installers. Installation process must comply with obliging norms/regulations.

#### 11.1. MONUTING THE CAMERA ON FLAT SURFACE (CEILING)

##### STEP 1 - Preparing the camera for mounting

Before camera mounting remove the camera lens protection (plastic round glass) by pressing on the both sides of the camera (refer to the image below) and attach the bubble with cover ring using the mounting screw.

The camera base should be attached to a structural object, such as hard wood, wall stud or ceiling rafter that supports the weight of the camera. The minimal required load of the mounting surface is 4.5 kg.



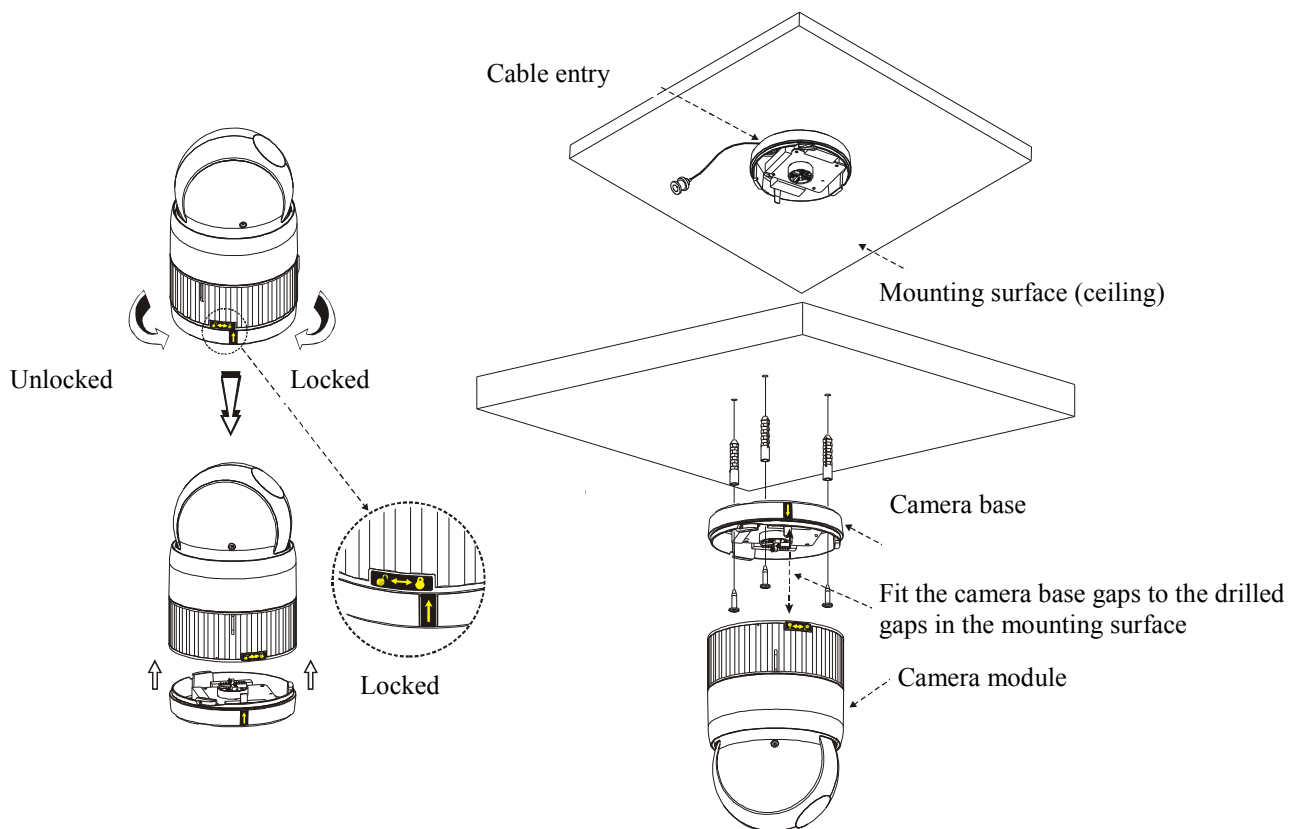
## MOUNTING THE CAMERA

### STEP 2 - Preparing the mounting holes

Select the desired area on the flat surface (ceiling) for camera mounting and mark exact locations that will be in line with these located on the camera base. Drill 3 holes for anchors accordingly to their depth and diameter. If necessary drill appropriate additional hole for cables.

### STEP 3 - Camera module mounting

Pass all cables (video, telemetry control, alarm inputs, sensor relays and power supply cables) through the camera base hole and connect to the junction block. Screw the base to the ceiling using attached anchors. Verify the base stability and mount the camera main module, check the padlock symbol (camera main module lock).



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## MOUNTING THE CAMERA

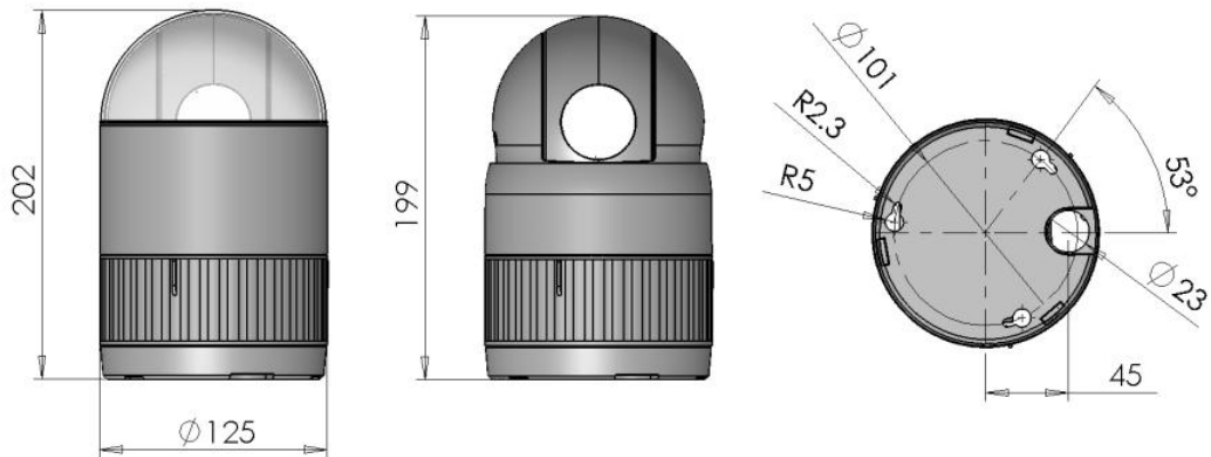
### 11.2. MOUNTING THE CAMERA ON THE WALL OR CEILING (WITH BRACKET)

NVH-SD40EH outdoor housing is designed for outdoor wall or ceiling mounting and one of three available brackets.

- NVB-40PWB/230: wall mount aluminium bracket with power supply for NVH-SD40EH housing
- NVB-SD40W: wall mount aluminium bracket for NVH-SD40EH housing
- NVB-SD40CB: in-ceiling mount aluminium bracket for NVH-SD40EH housing

Exact description of the manner of installation can be found in individual user's manual.

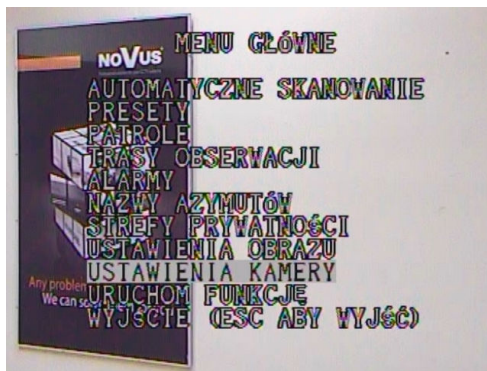
### 11.3 DOME DIMENSIONS



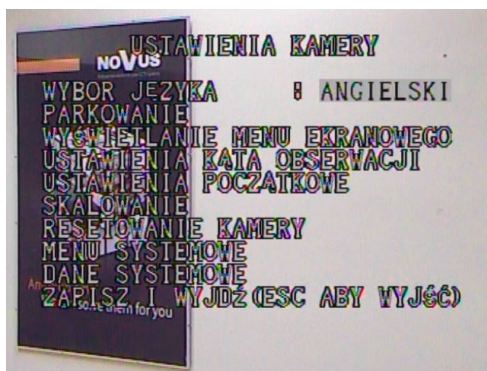
## APPENDIX 1

## CAMA-II LANGUAGE SETTING PROCEDURE MENU

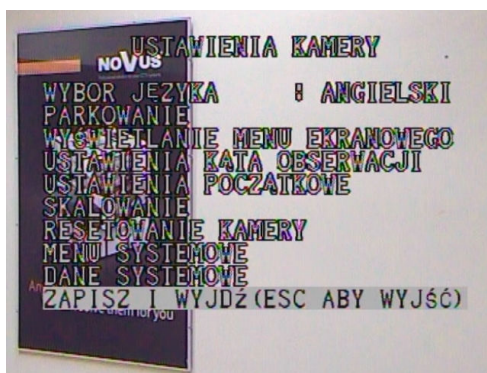
The procedure presented below shows how to go back to the English language in the CAMA-II menu in case of selecting any other language by mistake.



1. Enter the camera menu - use the **MENU** key,
2. Move the cursor to the 9th menu option from the top (third one from the bottom),
3. Move the joystick right to go into the submenu,



4. Move the cursor to the first menu option from the top,
5. Move the joystick right to get English language (depending on the menu language it can be described as ENGLISH, ANGLAIS, ENGLISCH, INGLESE, ANGIELSKI, INGLÈS, INGLES), ,



6. Move the cursor to the second menu option from the top (first one from the bottom),
7. Move the joystick right to save the selected language. The CAMA-II menu is set to English now.

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## NOTES

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## **NOTES**

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